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NEW DOLICHOPIDÆ FROM NORTH AMERICA WITH NOTES ON SEVERAL DESCRIBED SPECIES

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Of the twenty-two new species described in this paper, sixteen are from the Nearctic Region and six from Guatemala, the latter taken by Dr. Bequaert. Several interesting species are from Mount Ranier, Washington, some from Electric Lake, Colorado, and Mr. Brown took several of the new species in Quebec.

It has been a great pleasure to me to study this material, and I wish to thank Mr. Curran and Dr. Lutz for sending it to me for determination.

The types of the new species described here are in The American Museum of Natural History, unless otherwise stated in the text.

Condylostylus aduncus, new species

Length about 4 mm.

MALE.—Face and front shining green, without pollen or hair; frontal orbits with a row of five long, incurving black bristles; palpi and proboscis black; antennæ black, small, longest bristle on second segment about as long as first two segments of the antenna taken together; third segment scarcely as long as wide, rounded at tip; arista dorsal; beard formed of only a few rather short black hairs.

Thorax shining green with bronze reflections; scutellum and pleura mostly blue; bristles of thorax moderately long; I can see but two marginal bristles on the scutellum. Abdomen shining green with bronze and coppery reflections, the venter black; hair wholly black, the bristles of the abdomen short; hypopygium (Fig. 52) black, its outer claspers long, rather slender, hook-shaped, basal part a little enlarged and with delicate pale hairs.

Coxæ and femora wholly black, except that the front coxæ are green, with a few short black hairs on anterior surface and black bristles near tip; all trochanters black; front tibiæ and tarsi dark yellow; middle tibiæ brown on basal half, yellowish brown on apical half; hind tibiæ wholly black; all femora with long, dark yellow hair below, about as long as width of femora, and with a few black hairs among them; anterior and middle tibiæ slender, without bristles, hind tibiæ with several bristles, which are so short as to be difficult to separate from the hairs, as they are scarcely longer; all tarsi plain; length of front tibiæ as 62, of middle as 92; segments of front tarsi as 40–15–9–6–6; of middle as 59–21–13–8–6; and of posterior pair as 46–18–11–11–7. Calypters, their cilia and the halteres black.

Wings grayish, very slightly darker in front; third vein bent backward toward tip; last section of fourth vein bent at a right angle a little before its middle, upper

bend rounded, but almost a right angle, apical part almost straight and ending close to tip of third vein; there is no stump vein at first bend, this part of fourth vein being represented by a slight fold and darkening of the wing membrane; from the cross-vein to fork as 40, from fork to wing margin as 50; last section of fifth vein nearly straight, its length as 38, cross-vein as 31.

Holotype, male, taken in March or April, at Moca, Guatalon, Guatemala, by Dr. J. Bequaert.

This is a very bright, shining species, almost wholly without pollen; I can see only one pair of bristles on the scutellum, and the fourth vein is formed almost as in *Mesorhaga*, except for the fold in the wing membrane, but it surely should go in *Condylostylus*. It would run to *erectus* Becker (from Paraguay) in Abbé O. Parent's table of American species (Annales de la Societe Scientifique de Bruxelles, XLIX, 1929, p. 7, couplet 26), but that species has the hypopygium almost wholly concealed, the halteres pale yellow, basal half of hind tibiæ and whole of middle ones yellow, and middle tibiæ with 2–3 bristles.

Condylostylus fusitarsis, new species

Length about 5 mm.

MALE.—Face bare, wide above, but not as wide as front, narrower below the suture, shining green above, below the suture dulled with white pollen, which extends up the sides above the suture; front bright shining green; palpi yellowish brown; antennæ wholly black, its three segments of approximately equal length, longest hairs on second segment longer than the antenna, third segment rounded at tip, as long as wide, arista dorsal.

Thorax and scutellum green, dorsum shining and with bronze reflections, scutellum with two pair of bristles; abdomen rather dull, reddish coppery; hypopygium small, forming a rounded or flattened and somewhat enlarged tip to the abdomen, its appendages black, very small; the hairs at tip of abdomen rather short.

All coxæ black, anterior pair with green reflections and yellow tips; all femora blue-green with yellow tips and a few pale hairs below; all tibiæ pale yellow, posterior pair slightly brown at tip; front tarsi yellow, becoming brown at tip, middle and hind tarsi wholly black; front tibiæ with two slender bristles above, one near basal third and one before apical third; middle tibiæ with one bristle above near basal third and three below on basal third, a long, erect spur below at tip and also two small bristles above on apical two-thirds; hind tibiæ with one bristle above near basal third and two rows of long bristly hairs below; front basitarsi slender, with short bristles below, which are most numerous near base and about as long as diameter of segment; middle tarsi (Fig. 1) with the first segment bearing hooked bristles on lower posterior edge and a row of normal bristles on upper anterior edge; second segment short, bare except at tip; third segment very long and somewhat fusiform, bare; fourth and fifth segments short and thin. Length of front tibiæ as 64, of middle pair as 98; segments of front tarsi as 56–16–10–6–6; of middle pair as 49–5–22–6–6; first segment of posterior pair as 45. Calypters brown with black cilia; knobs of halteres yellow, the petiole brown.

Wings grayish, veins brown; costa with rather short hairs; third vein slightly bent backward toward tip; fork of fourth vein at right angles to fourth vein, but arched almost from its base; last section of fifth vein as 21; fourth vein from cross-vein to fork as 35, from fork to wing margin as 32.

Described from one male, taken near New York City. Type in Van Duzee Collection.

C. fusitarsis is very much like *cockerelli* Van Duzee, but has the face bare and third segment of middle tarsi of male long, enlarged and bare.

Sciapus divergens, new species

Length, 5–6 mm.

MALE.—Face wide, at top as wide as lower part of front, and half as wide at lower edge, wholly white pollinose; front opaque with grayish white pollen; palpi yellow with white hairs; first two antennal segments pale yellow (Fig. 2), third blackish, narrower than second segment, pointed at tip; arista subapical, nearly bare; beard not very abundant, silvery white below, but mixed with delicate blackish hairs below and at the sides of the neck.

Dorsum of the thorax green, with thick yellowish pollen on front half, which partly conceals the ground color when viewed obliquely; seven pairs of acrostical bristles, the first four very small; scutellum with one pair of large marginal bristles; pleura black, white pruinose, the posterior edge narrowly yellow. Abdomen green with black incisures, dulled with white pollen; posterior margin of first segment a very little yellowish; sides of second and third segments largely yellow, venter yellow; hairs on the dorsum of abdomen black, on lower part of sides white and moderately long; hypopygium (Fig. 3) petiolate, black, its tip and appendages mostly pale yellow, the pair of long, smooth, curved, horn-like claspers (Fig. 4) yellow on basal half, black on apical half, and notched at tip.

All coxæ and their hair wholly pale yellow; all femora and tibiæ yellow with only short hair, except that the front femora have a few long, delicate, yellow hairs below on basal half, some of these are as long as width of femora; anterior and posterior tibiæ each with one small bristle above near basal third; middle tibiæ without bristles, long and slender, their length as 107, length of front tibiæ as 86; segments of front tarsi as 79–22–22–10 (without projection, over projection as 17), last segment 8; of middle pair as 108–40–29–17–10; of posterior pair as 78–55–33–18–11; front tarsi (Fig. 5) yellow with the projection on fourth segment and whole of fifth black; fourth segment with a diverging projection, which has its apical half slightly enlarged, bare and rounded at tip, this apical part of the projection appears like a separate segment, fifth segment a little thickened; middle tarsi yellow, a little darkened toward the tip; hind tarsi black from the tip of first segment. Calypters and halteres yellow, tips of former black, their cilia white.

Wings grayish, a little narrowed at base, veins brownish black; third vein much bent backward toward tip; fork of fourth vein at a right angle to apical part of fourth vein, which is not quite in a straight line with the rest of fourth vein, the first and second parts of the fork straight; the bend but little rounded; fourth vein from cross-vein to fork as 26, from fork to wing margin, measured in a line with apical part of fourth vein, as 40, but the vein ends at half this distance from the fork; last section

of fifth vein straight, its length as 31; cross-vein very oblique and sinuous, its length as 36; posterior margin of wing with a shallow sinus both before and beyond the tip of fifth vein, thereby forming a slight lobe at tip of both fifth and sixth veins; sixth vein represented by only a fold in the wing membrane; costa not ciliated.

Holotype, male, and one paratype, male, taken by R. Latta, June 30, 1931, at Sumner, Pierce Co., Washington.

S. divergens is like *pallens* Wiedemann in having the front wholly opaque with pollen, the dorsum of the thorax more or less opaque, first two antennal segments yellow, third brown and the hypopygium of nearly equal size and of the same general form. They differ as follows: *pallens* has third antennal segment rounded, not pointed; the front tarsi in *pallens* have fourth segment white, widened in the middle, somewhat spindle-shaped, fifth segment black, half as long as fourth; it also has long stout bristles below on the front femora of the female and this may separate the female of *divergens* from that of *pallens*, but the female of *divergens* is not known at present.

Among the European species of *Sciapus* are several with the fourth and fifth segments of the anterior tarsi formed about as in this species, the two coming nearest *divergens* are *costæ* Mik and *wiedemanni* Fallen, but in both of these the hypopygium has very different appendages and in the former the front tarsi are wholly black, while in the latter the fourth segment of the anterior tarsi is almost wholly black.

Rhaphium (Xiphandrium) elongatum, new species

Length, 3 mm.

MALE.—Face narrow, its sides nearly parallel, only a little wider above, silvery white; front shining violet; palpi black with black hair; antennæ (Fig. 6) black, second segment with long bristles, one being longer than width of third segment, third segment seven times as long as width at base, tapering rapidly beyond the middle, so as to form a slender tip, distinctly pubescent, arista one and one-fourth times as long as width of third segment at base; upper orbital cilia black, lateral cilia and the long but not very abundant beard silvery white, the hairs forming the beard a little flattened; occiput greenish black with a little whitish pollen.

Dorsum of thorax dark shining green; pleura black with green reflections, white pruinose; propleura with a few white hairs above anterior coxæ; abdomen green with bronze reflections, hair on the dorsum black, on the sides more whitish; venter black, white pruinose, with long hair, which is mostly white; hypopygium somewhat round, black, a little metallic, with brown pollen and stiff black hairs; outer lamellæ (Fig. 7) with apical part triangular, black with the hair on convex side largely black, on concave side the hairs are more delicate, curved and whitish, the petiole and its hair yellow; inner appendages (Fig. 8) black with their hair mostly white.

Front coxæ yellow, black at base, with long, silvery-white hair, no black bristles; middle coxæ with yellow tips, a few silvery-white hairs on anterior surface, a silvery-white thorn at tip and two large black bristles on outer anterior surface; hind coxæ

black with yellow tips, a few short white hairs and one black bristle on outer surface; anterior femora yellow below and at base and tip, black above and sometimes on most of posterior surface, their hairs small, few and white on posterior side; middle femora wholly yellow, with black hair; hind femora yellow, black on apical fourth, extending to the middle on upper edge, their hair black, a few white hairs below, especially toward tip; front and middle tibiæ yellow, anterior pair with white hair on anterior surface, which extends to tip of tarsi and is scarcely as long as their diameter; front tarsi (Fig. 9) brown from tip of first joint which is a little enlarged at tip, fourth segment shorter than fifth; front tibiæ with one small bristle near apical third; middle tibiæ with two large bristles beyond basal third and several very small bristles; hind tibiæ and tarsi wholly black, their hair partly white, the tibiæ with two pairs of bristles above, one pair near the base and one near the middle; middle tarsi brown, a very little yellowish at base; length of front tibiæ as 49, of middle 65, and of posterior pair as 90; segments of front tarsi as 23–16–7–4–7; middle pair as 30–15–12–8–7; of hind tarsi as 26–27–20–14–10. Calypters and halteres pale yellow, cilia of former white.

Wings grayish; third and fourth veins somewhat convergent but nearly parallel beyond the bend in the last section of fourth vein, which ends in the apex of the wing; last section of fifth vein straight, its length as 35, cross-vein as 13; posterior margin of wing evenly rounded, but base of wing narrowed.

FEMALE.—Face wide, its suture near the middle, white pollinose; palpi black, covered with white pollen and black hairs; antennæ (Fig. 10) black, third segment a little more than twice as long as wide, arista one and one-half times as long as antenna, second antennal segment with rather long bristles; upper edge of front femora blackish, sometimes only slightly so; hind femora with less black at tip than in the male; hind tibiæ slightly brown at base and with apical third black, hind tarsi wholly black.

Described from two males and eight females, all taken by W. J. Brown, between June 16–21, 1930, at Thunder River, Quebec.

Rhaphium (*Xiphandrium*) *femoratum*, *pollex*, *dubium* Van Duzee, *exile* Curran, and *elongatum*, new species, form a closely related group, all having the hypopygial lamellæ and inner appendages formed very much alike. All have the posterior tibiæ and tarsi wholly black or brownish black and middle femora wholly yellow.

The first three have the third antennal segment very obtuse at the tip, tapering but little before near the apex. These are *pollex* (Fig. 15), *femoratum*, and *dubium* (Fig. 11). The other two have the third antennal segment tapering rapidly beyond the middle and the apical portion slender, almost acutely pointed at the tip. These are *exile* (Fig. 12) and *elongatum* (Fig. 6), which also have the bristles on second segment decidedly longer than in the first three species.

Of the first three, *femoratum* has the first and second segments of the hind tarsi as 21–14 and the segments of the front tarsi as 23–12–8–6–7; *pollex* has the segments of front tarsi as 23–11–7–4–6 and of hind tarsi as 24–26–19–12–10; and *dubium* has the segments of hind tarsi as

20–24–15–10–10. Of the last two species, *exile* has the hypopygial lamellæ (Fig. 13) long and rather slender, with a very long curved hair at the tip, and the front tarsi (Fig. 14) have their segments as 23–13–6–5–4, while in *elongatum* segments of front tarsi are as 23–11–7–4–7.

The following table will help to separate these species.

1.—Third antennal segment slender toward the tip; bristles on second antennal segment long.....2.

Third antennal segment wide almost to its tip; bristles on second antennal segment shorter.....3.

2.—Hypopygial lamellæ with a long hair at tip; fifth segment of front tarsi shorter than fourth.....*exile* Curran.

Lamellæ shorter and without a conspicuously long hair at tip, fifth segment of front tarsi longer than fourth.....*elongatum*, new species.

3.—Second segment of hind tarsi two-thirds as long as first....*femoratum* Van Duzee.

Second segment of hind tarsi longer than first.....4.

4.—Widest part of third antennal segment near the base; second segment of hind tarsi one-fourth longer than first; front femora wholly yellow.

dubium Van Duzee.

Widest part of third antennal segment beyond the middle; second segment of hind tarsi one-twelfth longer than first; front femora mostly black.

pollex Van Duzee.

Rhaphium (*Xiphandrium*) *femineum* has the hypopygial lamellæ small, somewhat oval, and would not go in this group at all, as I look at it now.

Rhaphium (Porphyrops) hirtimanus, new species

Length, 4 mm.

MALE.—Face in the middle half as wide as width of third antennal segment, a little wider above, silvery white; palpi black with a little white pollen at tip, a few black hairs and one yellow bristle; front nearly opaque with dark gray pollen, a little longer than wide; antennæ (Fig. 16) black, one and one-half times as long as wide, rather rounded at tip, arista slender, one and one-half times as long as antennæ, upper orbital cilia black, beard silvery white, long and abundant.

Dorsum of thorax bronze-green with a bronze-brown stripe on each side of the acrostical bristles; pleura black with a slight green tinge and white pollen. Abdomen green with bronze reflections, hairs on first segment and on the sides yellow, on the dorsum black, hairs on the sides at base of abdomen long. Hypopygium (Fig. 17) black, its outer lamellæ very long, black, narrow and tapering to their tips, with long, delicate, pale, curved hairs on each edge of inner side (in the drawing they show as one row, being all turned inward), inner appendages nearly bare, enlarged and yellowish at tip.

All coxæ colored like the pleura and with silvery-white hair, that on anterior pair long and abundant, posterior coxæ with only a few small white hairs, no black bristle; front trochanters brownish yellow, middle and hind trochanters, narrow tips of femora, extreme base of hind femora and front and middle tibiæ yellow; hind tibiæ yellow at base, shading into brown, with apical fourth black above, below the black

extends nearly to the middle; anterior femora with black hair, the lower surface nearly bare; middle and hind femora with a few rather short, delicate, white hairs below; front tibiæ with two bristles on upper posterior edge of basal half, and on anterior surface are three bristles on basal half and one near tip, none below; middle tibiæ with eight bristles on upper surface and a pair below near apical third; hind tibiæ with three bristles on upper posterior and two on upper anterior surface of basal two-thirds, also two on lower posterior surface; anterior tibiæ and tarsi with their hair stiff, bristly and abundant, but not very long; front tarsi yellow with most of last two segments brownish black; middle tarsi infuscated from tip of first segment; hind tarsi wholly black; all tarsi plain. Length of front tibiæ as 70, middle tibiæ as 89, and posterior pair as 118; segments of front tarsi as 32–13–10–6–7; of middle ones as 41–18–15–11–8; of posterior pair as 38–35–23–15–12. Calypters and halteres pale yellow, cilia of the former white.

Wings uniformly tinged with brown; posterior margin evenly rounded; apex of wing between tips of third and fourth veins; last section of fifth vein as 38, cross-vein as 20; third and fourth veins bent about as usual in this genus.

FEMALE.—Face very wide with yellowish pollen, especially on lower portion; palpi velvety black with white pollen on their edges, front green or bronze color with brownish-gray pollen; third antennal joint about as long as wide, somewhat triangular; thorax with the same two bronze-brown stripes as in the male; abdomen depressed, green, its hair mostly black, the white hair on the sides at base much shorter than in the male, in the allotype the abdomen is coppery black; front and middle trochanters yellowish brown, posterior ones yellow; hair on anterior coxæ moderately long, white or yellowish white; all tibiæ yellow, posterior ones a little brown at tip; hind femora more broadly yellow at base than in the male; all tarsi brown or black almost to their base, which is more or less yellowish; last section of fifth vein as 65, cross-vein as 20; wings colored as in the male.

Described from one male and two females. Holotype and allotype taken May 9, 1931, at Rock Creek, Alsea Mount, Oregon, by J. Wilcox; paratype, female, taken July 29, 1930, at Portland, Oregon, by R. E. Dimock.

Rhaphium hirtimanus is very much like *nigrovittatum* Curran, but that species has long white hair on posterior and lower surface of anterior femora, while in *hirtimanus* the hair on the front femora is wholly black or nearly so, although there may be a few small white hairs on upper posterior surface, though I am not sure about these, as in most lights they appear wholly black. The paratype is in poor condition, but seems to be the same species, the female would run in the Curran table of species, Transactions of the Royal Canadian Institute, Toronto, XV, part 2, page 258, couplet 13 to *nigrociliatum* Curran, but that species has the tibiæ reddish with black base, while in *hirtimanus*, all the tibiæ are yellow at the base.

Dolichopus bryanti Van Duzee

One pair of this species was taken by W. J. Brown, August 6, 1929, at Natashquan, Quebec. The following are a few additions and correc-

Fig. 1. *Condylostylus fusitarsis*, new species. Middle tarsus of male.
" 2. *Sciapus divergens*, new species. Antenna of male.
" 3. *Sciapus divergens*, new species. Hypopygium of male.
" 4. *Sciapus divergens*, new species. Hypopygial claspers of male.
" 5. *Sciapus divergens*, new species. Front tarsus of male.
" 6. *Rhaphium elongatum*, new species. Antenna of male.
" 7. *Rhaphium elongatum*, new species. Outer hypopygial lamella of male.
" 8. *Rhaphium elongatum*, new species. Inner hypopygial appendages of male.
" 9. *Rhaphium elongatum*, new species. Front tarsus of male.
" 10. *Rhaphium elongatum*, new species. Antenna of female.
" 11. *Rhaphium dubium* Van Duzee. Antenna of male.
" 12. *Rhaphium* exile Curran. Antenna of male.
" 13. *Rhaphium exile* Curran. Hypopygial lamella of male.
" 14. *Rhaphium exile* Curran. Front tarsus of male.
" 15. *Rhaphium pollex* Van Duzee. Antenna of male.
" 16. *Rhaphium hirtimanus*, new species. Antenna of male.
" 17. *Rhaphium hirtimanus*, new species. Hypopygium of male.
" 18. *Dolichopus bryanti* Van Duzee. Hypopygial lamella of male.
" 19. *Dolichopus breviciliatus*, new species. Hypopygial lamella of male.
" 20. *Dolichopus bruneifacies*, new species. Hypopygial lamella of male.
" 21. *Dolichopus fallax*, new species. Antenna of male.
" 22. *Dolichopus fallax*, new species. Hypopygial lamella of male.
" 23. *Dolichopus fallax*, new species. Tip of wing of male.
" 24. *Dolichopus flavifacies*, new species. Antenna of male.
" 25. *Dolichopus flavifacies*, new species. Front tarsus of male.
" 26. *Dolichopus parvimanus*, new species. Antenna of male.
" 27. *Dolichopus parvimanus*, new species. Hypopygial lamella of male.
" 28. *Dolichopus parvimanus*, new species. Front tarsus of male.
" 29. *Hercostomus ornaticauda*, new species. Antenna of male.
" 30. *Hercostomus ornaticauda*, new species. Hypopygium, not showing the elbowed bristles.
" 31. *Hercostomus ornaticauda*, new species. Hypopygium, showing the elbowed bristles.

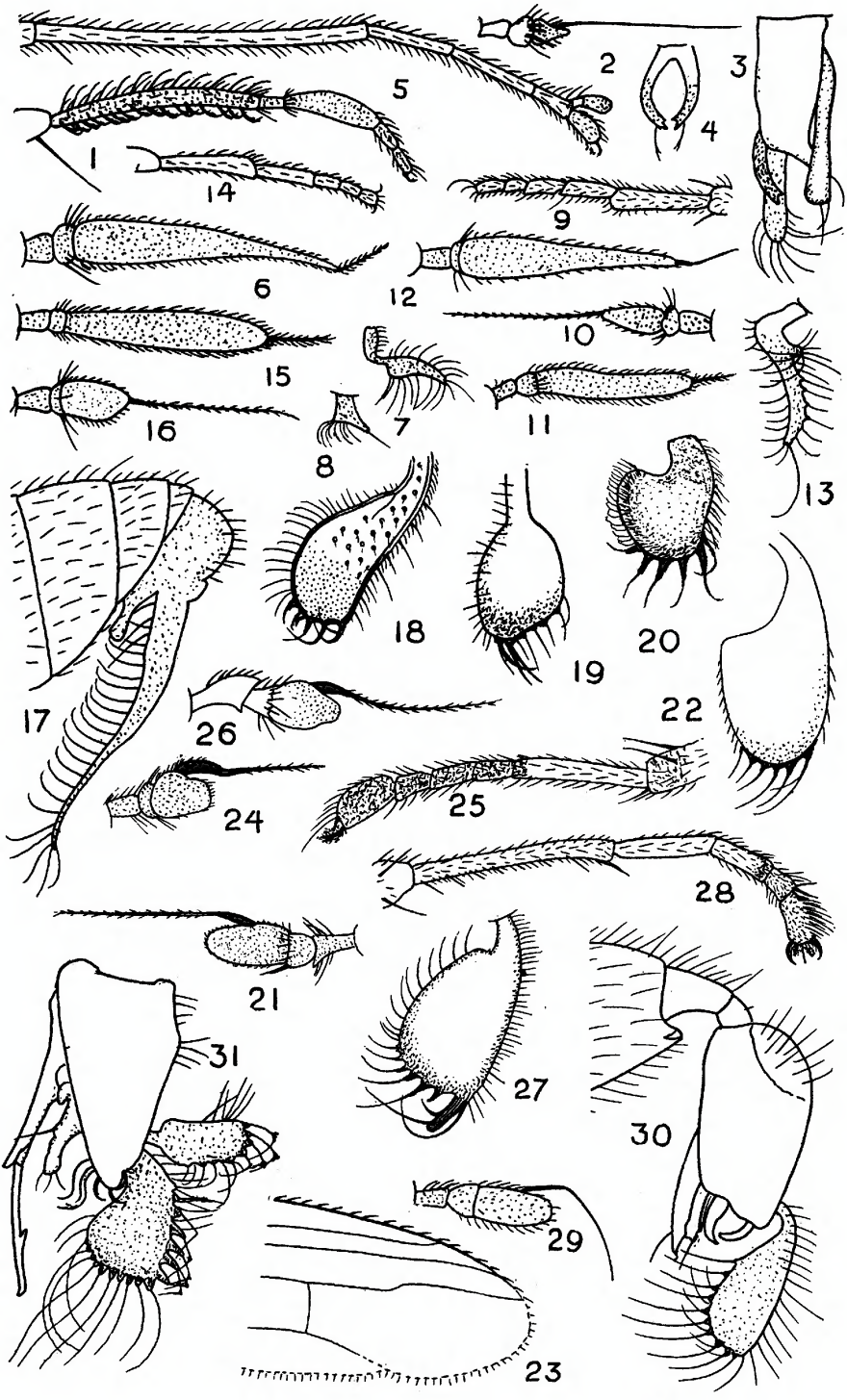
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Fig. 32. *Gymnopternus convergens* Van Duzee. Hypopygial lamella, not showing the elbowed bristles.

" 33. *Gymnopternus convergens* Van Duzee. Hypopygial lamella, showing the elbowed bristles.

" 34. *Gymnopternus brevipes*, new species. Antenna of male.

" 35. *Gymnopternus brevipes*, new species. Hypopygium of male.

" 36. *Gymnopternus browni*, new species. Antenna of male.

" 37. *Gymnopternus browni*, new species. Hypopygial lamella of male.

" 38. *Gymnopternus nigrifacies*, new species. Antenna of male.

" 39. *Gymnopternus nigrifacies*, new species. Hypopygium of male.

" 40. *Paraclius coxalis*, new species. Antenna of male.

" 41. *Paraclius coxalis*, new species. Hypopygium of male.

" 42. *Paraclius coxalis*, new species. Hypopygial lamella of male.

" 43. *Paraclius fraternus*, new species. Antenna of male.

" 44. *Paraclius fraternus*, new species. Hypopygial lamellæ of male.

" 45. *Paraclius sordidus*, new species. Antenna of male.

" 46. *Paraclius sordidus*, new species. Hypopygium of male.

" 47. *Paraclius angusticauda*, new species. Antenna of male.

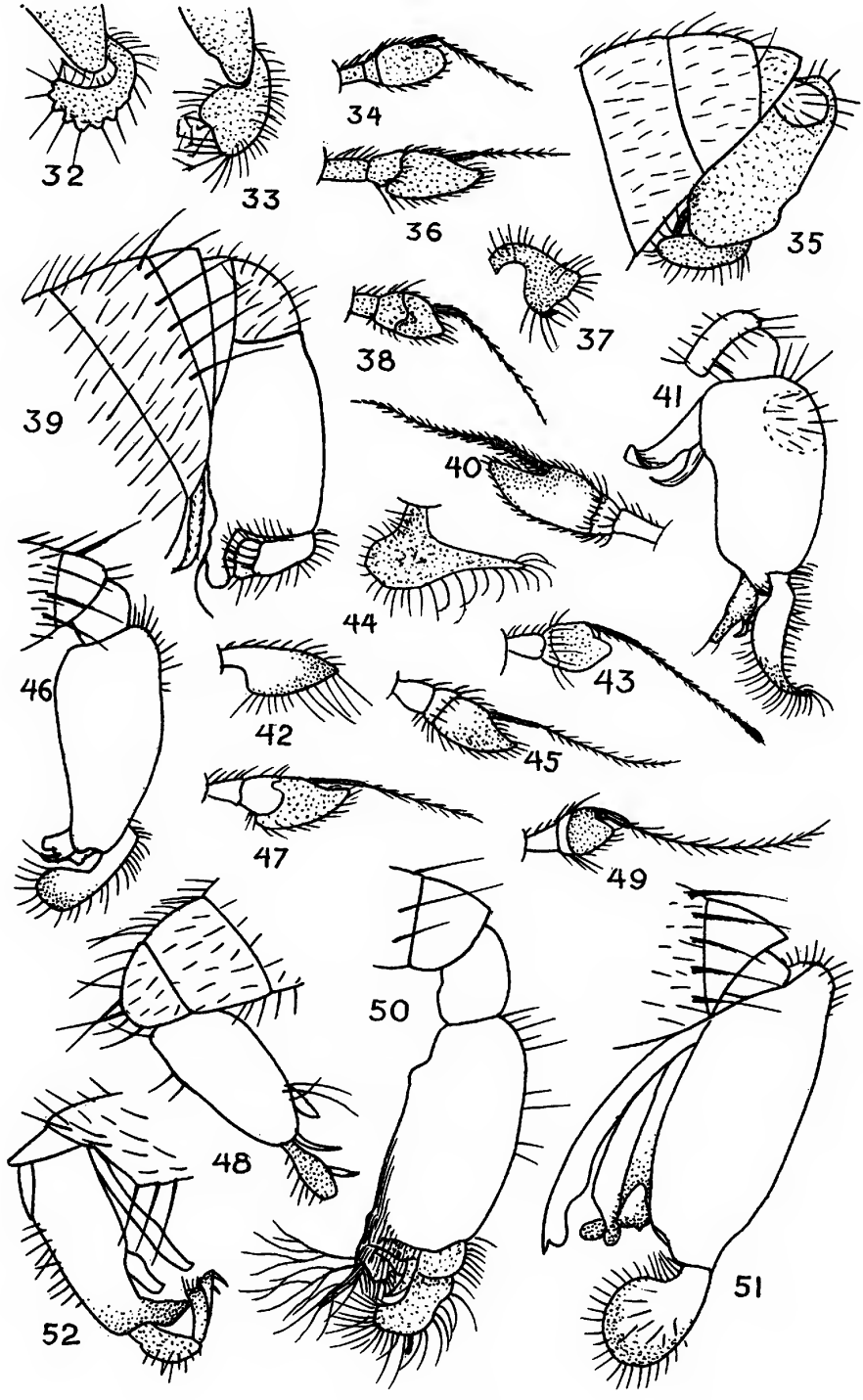
" 48. *Paraclius angusticauda*, new species. Hypopygium of male.

" 49. *Sarcionus obtusus*, new species. Antenna of male.

" 50. *Pelastoneurus abbreviatus* Loew. Hypopygium of male.

" 51. *Pelastoneurus bequaerti*, new species. Hypopygium of male.

" 52. *Condylostylus aduncus*, new species. Hypopygium of male.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tions to the description given in Bulletin 116, U. S. National Museum, 1921, page 104, Fig. 61.

Length, 3.5 to 4.2 mm. Palpi and proboscis blackish brown; antennæ wholly black, third segment about one and one-third times as long as wide, rounded at tip; hypopygium and its lamellæ moderately large, the lamellæ (Fig. 18) whitish with a very narrow black border which toward basal half becomes more yellowish and seems thickened; the lamellæ are nearly two-thirds longer than wide and are jagged and bristly on apical margin, on apical part of inner surface they have quite long hair on the disk, on the outer surface toward the base are minute circles of brown from which minute hairs arise; in this male the black of the posterior legs is not quite as extensive as in the paratype I have. In the paratype the black extends narrowly along the upper edge of the hind femora nearly to their base and the hind tibiæ are black almost to their base, only a little yellowish at the knees, while in the male before me the yellow on the hind tibiæ extends to the basal third on the upper edge, and the upper edge of the femora is scarcely at all darkened, except at the tip. The wings have the costa a little enlarged at tip of first vein, gradually tapering to normal as in the drawing in the Bulletin (Fig. 61). In the description in the Bulletin it says "costa with a small knot-like enlargement at tip of first vein," but I do not think this would show as a knot, unless viewed from above.

The anterior tarsi are one and one-fifth times as long as their tibiæ, middle and hind tarsi two-fifths longer than their tibiæ; segments of anterior tarsi as 30–15–10–7–9; of middle ones 48–28–18–11–9; of posterior pair as 42–39–27–16–12.

Dolichopus ornatipennis Van Duzee

Two males and one female of this species were taken by C. H. Curran, July 10, 1930, at Oakdale, Long Island, N. Y. The male was described from Massachusetts, in Bulletin 116, U. S. National Museum, page 132, Plate VI, figs 87 and 87*a*.

The female has the wing as in the male; middle tibiæ with a pair of bristles below at apical third, a single one near the middle and another near basal third; hind tibiæ with a row of hairs below, which are stiff and of increasing length, ending in a large bristle near apical fifth; face, front, antennæ, legs, tarsi and front coxæ colored about as in the male; bristle on upper surface of middle basitarsi a little smaller than in the male.

Dolichopus humilis Van Duzee

Bulletin 116, U. S. National Museum, page 108, Plate V, figs. 64 and 64*a*.

Described from a single male, taken in Alaska.

I received from the American Museum one male and four females of this species, all taken somewhere in Greenland. All have the front shining, dark blue, almost blue-black.

FEMALE.—Second and third antennal segments taken together scarcely as long as first and nearly round in outline, but third a little pointed at tip; face wide, black, covered with thick gray pollen; palpi dark yellowish; lateral and inferior orbital cilia

yellowish, cilia of calypters yellow; anterior femora black, rather widely yellow at tip; middle femora wholly yellow, or with a blackish streak below on basal half; hind femora more or less black on basal half, remainder yellowish; hind tibiæ black at tip, with two bristles below, which are placed quite close together; middle tibiæ with one bristle below, their basitarsi without a bristle above; front and middle tarsi black from the tip of the first segment, hind tarsi wholly black; anterior tarsi only a little longer than their tibiæ, middle tarsi distinctly longer than tibia; wings about as in the male, except that the costa is only a very little enlarged at tip of first vein, tapering to its tip.

Dolichopus breviciliatus, new species

Length, 4 mm.

MALE.—Face narrow, dark yellow; front dark shining blue; palpi yellow, proboscis black; antennæ wholly black, third segment a little longer than wide, somewhat conical in outline; lower orbital cilia white.

Thorax and abdomen shining green with blue and bronze reflections; pleura and sides of abdomen with a little white pollen; hairs and bristles of abdomen black; hypopygium black, its lamellæ (Fig. 19) white with a black border at tip, the hairs on their edge black, a few white hairs on the surface near upper edge and on the petiole, jagged and bristly on the upper apical corner.

Anterior coxæ yellow, blackish at base on outer surface and with numerous small black hairs on anterior surface and four large black bristles near tip; middle and hind coxæ black; trochanters, femora and tibiæ yellow; apical fifth of hind tibiæ sharply black; middle and hind femora each with one preapical bristle, the latter ciliated on lower posterior edge with pale yellow hairs, which are about three-fourths as long as width of femora; front tibiæ with a row of very short bristles on upper surface, and three somewhat longer ones, also two small bristles on lower posterior edge, the larger one near basal third and a small one near apical third; middle and hind tibiæ with large bristles above, the former with one large bristle near apical third of lower posterior surface, hind tibiæ with a row of small bristly hairs below on apical half; all tarsi plain; anterior and middle tarsi black from the tip of the first segment; hind tarsi wholly black; front tibiæ as 72, middle 104, and hind 105; segments of anterior tarsi as 41–19–15–10–9; middle pair as 51–25–21–13–10; posterior pair as 50–45–30–20–13. Calypters and halteres yellow, the cilia of the former black.

Wings grayish; costa with a small, knot-like enlargement at tip of first vein; last section of fourth vein a little bent before its middle; third vein a little bent backward at tip; last section of fifth vein straight, its length to wing margin as 35, cross-vein as 23; anal angle of wing rather prominent, the wing being of nearly equal width throughout; hind margin of wing a little notched at tip of fifth vein, which scarcely reaches the margin.

TYPE.—Male, taken by W. J. Brown, August 1, 1929, at Natashguan, Quebec; in Canadian National Collection.

This is almost like *setosus* Loew, but is smaller and differs in having the face yellow, almost ocher-yellow, the antennæ wholly black and the cilia of the hind femora less than half as long as in that species.

Dolichopus bruneifacies, new species

Length, 4 mm.

MALE.—Face moderately wide, brown, but not dark, seen from above yellowish brown; palpi and proboscis black; front shining green; antennæ wholly black, the third segment a little longer than wide, obtuse at tip; lower orbital cilia yellowish white; the black cilia do not extend down to the middle of the eyes.

Thorax and abdomen very dark shining green; dorsum of thorax with brown pollen, which is visible when viewed obliquely; hairs of abdomen black; hypopygium black, its lamellæ (Fig. 20) whitish, tinged with brown and with a black border, jagged and bristly on upper apical corner; inner appendages yellowish brown.

Coxæ, trochanters, femora, tibiæ and tarsi wholly black, even the knees are not yellow; anterior coxæ with short black hair; hind femora ciliated with a few dark yellowish hairs on apical half of lower surface; hind tibiæ thickened throughout, shining; middle basitarsi without a bristle, but with a few little spines below; middle tarsi one-fourth longer than their tibia; anterior tibiæ four-fifths longer than basitarsi; segments of middle tarsi as 58–28–22–13–8. Calypters and knobs of halteres dark yellow, cilia of former white.

Wings grayish; costa with a short, very slight enlargement at tip of first vein; last section of fourth vein bent at its middle; last section of fifth vein twice as long as the cross-vein.

FEMALE.—Face wide, dark grayish pollinose; third antennal segment about as long as wide; palpi black, proboscis brown; otherwise colored about as in the male; form of wing about as in the male, except that there is no enlargement of the costa.

Described from six males and three females, taken June 28, 1919, at Electric Lake, La Plata County, Colorado, at an elevation of 8400 feet, by Dr. F. E. Lutz.

This species is near *interjecta* Van Duzee, but in that species the hind femora are without cilia below; the hind tibiæ are scarcely thickened, except toward the tip, the knees and front and middle trochanters are yellow, the middle tarsi about as long as their tibiæ and the face is silvery white.

Dolichopus fallax, new species

Length, 4.5 mm.; of wing, 4 mm.

MALE.—Face, palpi and proboscis dull black, face wide above, a little narrowed below; front shining green with bronze reflections; antennæ (Fig. 21) black, third segment about twice as long as wide, bare, rounded at tip, arista inserted near middle of upper edge, its pubescence very short; a few of the lower orbital cilia whitish.

Thorax and abdomen coppery and green, in the holotype mostly coppery; hairs of the abdomen black, those on lower part of sides short and whitish; venter almost bare; hypopygium black, its lamellæ (Fig. 22) sordid whitish with a narrow, black, apical border, jagged and bristly on outer margin.

Coxæ, femora, tibiæ, and tarsi wholly black; front coxæ with short black hair, among which there seem to be a few delicate white hairs; all femora with only very short hair below; middle and hind femora each with two preapical bristles, one in front of the other; anterior tibiæ with three large bristles on middle half above and two below; middle tibiæ with three conspicuously long bristles near apical third, two

above and one below, those at tip also long, while on upper surface are two shorter bristles near the base and one near the middle; hind tibiæ with seven large bristles above, none below; front tarsi one and one-half times as long as their tibiæ; segments of anterior tarsi as 39–17–14–9–10; of middle pair 39–20–15–10–10; those of posterior pair 52–50–37–23–15. Calypters and halteres yellow, former with long, stout, black cilia and some delicate, pale yellow hairs.

Wings (Fig. 23) gray with brown veins and yellow root; third vein a little bent backward at tip, last section of fourth vein quite sharply bent near its middle; last section of fifth vein as 45, cross-vein as 25; a slight enlargement of the costa at tip of first vein.

FEMALE.—Like the male in general characters and color; face wider with parallel sides and covered with a little dark gray pollen; third antennal segment a little longer than wide; front tibiæ without bristles above, but with a small one below; middle tibiæ with four large bristles on middle half above and one below near apical third; posterior tibiæ with about ten bristles above and a row of very short, hairlike spines on lower anterior surface; wings tinged with brown in front as far back as third vein.

Described from two pairs, all taken at Electra Lake, Colorado, between June 28 and July 1, 1919, by F. E. Lutz, at about 8400 feet elevation.

This male is much like *nigrimanus* Van Duzee, but in that species the middle and hind femora have only one preapical bristle, the face is silvery white and the costa much enlarged. The female would run to *adequatus* Van Duzee, but in *adequatus* the front tarsi are scarcely as long as their tibiæ, and the face silvery white.

Dolichopus flavifacies, new species

Length, 4 mm.

MALE.—Face rather pale yellow, moderately narrow in the middle; front shining green; palpi brownish yellow with black hairs; proboscis black; antennæ (Fig. 24) moderately large, black, rounded at tip; arista dorsal, one-third longer than the antenna; orbital cilia wholly black.

Dorsum of thorax shining green with a little white pollen along the front; scutellum more coppery. Abdomen shining green, its incisures narrowly bronze or coppery; hypopygium black, its lamellæ rather large, formed about as in *stenhammari* Zetterstedt (Plate II, fig. 22*a*, U. S. National Museum, Bulletin 116); black, a little yellowish brown in the middle.

Front coxæ dark yellow, blackened on outer surface nearly to their middle, their hair black; middle and hind coxæ black; all femora and tibiæ yellow; tips of hind femora and apical fifth of their tibiæ black; all femora nearly bare below; middle femora with two preapical bristles, placed longitudinally; hind femora with one preapical bristle; fore tibiæ with four bristles above, one of which is small, and two long slender bristles below; middle tibiæ without a bristle below and middle basitarsi without a bristle above; anterior and middle tarsi black from tip of first segment, the hind tarsi wholly black; front tarsi (Fig. 25) with third and fourth segments a little, the fifth considerably widened; middle and hind tarsi plain; front tibiæ as 75, segments of front tarsi as 35–10–9–8–13; of middle pair as 59–26–20–16–14; of posterior pair as 53–47–35–24–15. Calypters and halteres yellow, cilia of former black.

Wings a little grayish; costa with a small knotlike enlargement at tip of first vein; last section of fourth vein moderately bent just before its middle and about opposite tip of fifth vein, which is not quite twice as long as the cross-vein; anal angle of wing prominent, almost forming a lobe at tip of sixth vein, although the wing is somewhat narrowed toward the base.

TYPE.—Male, taken by W. J. Brown, July 3, 1929, at Harrington Harbor, Quebec; in Canadian National Collection.

This would run to *dasyops* Malloch, in the table of species in Bulletin 116, U. S. National Museum, page 14, but it differs greatly from that species. *D. dasyops* has the hypopygial lamellæ mostly white; the hind femora wholly yellow, the last segment of the anterior tarsi very broad and the costa not enlarged at the tip of the first vein.

Dolichopus parvimanus, new species

Length, 5 mm.

MALE.—Face wide, a little narrowed below, brownish yellow; front dull greenish; antennæ (Fig. 26) yellow with tip of third segment brown; the orbital cilia are almost all gone in the type, but I see no black ones below the middle, although there seem to be one or two whitish ones near the proboscis.

Thorax and abdomen green with coppery reflections; dorsum of thorax dulled with yellowish-brown pollen; hypopygium black, its lamellæ (Fig. 27) quite large, white with a narrow black apical border, which is jagged and bristly.

Anterior coxæ wholly yellow with a few small black hairs and a row of five bristles of decreasing size at tip; middle and hind coxæ black, broadly yellow at tip; femora and tibiæ yellow, apical tenth of posterior tibiæ black; anterior and posterior femora and tibiæ without bristles or long hair below (middle legs missing in type); anterior tibiæ with two long bristles and several smaller ones on upper anterior edge; posterior tibiæ with strong bristles above; hind femora with one preapical bristle; front tarsi (Fig. 28) yellow with last two segments black, the fifth with long dense black hair above; hind tarsi wholly black; front tarsi one and one-half times as long as their tibia, their segments as 47–21–17–7–15. Calypters and halteres yellow, the cilia of the former black.

Wings grayish, a little darker in front; costa not enlarged at tip of first vein; third vein bent backward a little at tip.

Described from one male, taken by Dr. F. E. Lutz, June 7, 1919, at Regnier, Colorado, at about 4500 feet elevation.

This species is something like *vigilans* Aldrich, but that species has the face silvery white, the front violet and the third antennal segment smaller.

Hercostomus ornaticauda, new species

Length, 3 mm.

MALE.—Face narrow, grayish-white pollinose, its sides parallel; front dark green or bronze-green, gray pollinose; palpi black; antennæ (Fig. 29) black, third segment twice as long as wide, rounded at tip; orbital cilia wholly black.

Dorsum of thorax and abdomen dark shining green; abdomen with black hair

and slight bronze reflections; pleura blackish; hypopygium (Fig. 30) black, pedunculated with black lamellæ, which are somewhat oval but taper into a rather slender petiole, they are fringed on outer edge with moderately long hairs, on apical part with very long, fine hairs (see Fig. 30), and on the inner surface near the edge with elbowed bristles which have a small projection at the elbow (see Fig. 31); this last figure also shows three pairs of inner appendages, one pair of plain hooks, one pair of bent spines and one of clubbed, the long central organ and its sheath, which is short.

Legs wholly black; anterior coxæ with small black hairs; anterior tibiæ with two pairs of small bristles above, none below; middle tibiæ with three pairs of long bristles above and one bristle on upper posterior surface near basal third, none below; posterior pair with four pairs of bristles above and one smaller one below near apical third; front and middle femora with short hair below; posterior femora with a row of hairs on lower anterior surface, which are moderately long; middle and hind femora each with one preapical bristle; all tarsi plain, except first segment of posterior pair, which has a bristle at the tip; length of front tibiæ as 52; middle as 68 and posterior as 66; segments of front tarsi as 21–11–8–5–3; of middle pair as 32–16–12–7–7; and of posterior pair as 25–23–15–11–11. Calypters and halteres yellow, the cilia of the former black.

Wings slightly tinged with brown; third vein bent backward toward its tip; last section of fourth vein nearly straight, making it somewhat convergent with third, ending a little in front of apex of wing; last section of fifth vein as 31, cross-vein as 14; posterior margin of wing evenly rounded, the anal angle being somewhat narrowed.

FEMALE.—Nearly like the male; face a little wider and the third antennal segment about as long as wide.

TYPES.—Described from five males and six females; holotype, male, and allotype, female, and five paratypes, taken by J. Wilcox, August 13, 1931, at Sunrise, Mt. Rainier, Washington, at an elevation of 6318 feet, and one pair taken by H. A. Scullen, August 1, 1930, at Crater Lake, South Rim, Oregon, at 7100 feet elevation.

Hercostomus ornaticauda is very much like *H.* (*Gymnopternus*) *convergens* Van Duzee, but both male and female of *convergens* have two preapical bristles on the middle and hind femora and the hypopygial lamellæ are of different form (see Figs. 32 and 33).

Hercostomus (**Gymnopternus**) **brevipes,** new species

Length, 2.4 mm.

MALE.—Face about one-third as wide as the head, twice as long as wide, silvery white, its suture near the lower edge, making the lower part twice as wide as long; proboscis and palpi black; antennæ (Fig. 34) black, third segment rounded at tip, one and one-half times as long as wide; front black with dark gray pollen; the orbital cilia seem to be wholly black.

Dorsum of thorax and the abdomen shining metallic black with slight purple reflections; dorsum of thorax with a very little brown pollen; pleura dull black; acrostical bristles represented by two large bristles on anterior part; hairs on sides of abdomen appear whitish, those on the dorsum are more black; hypopygium (Fig. 35) black, rather small, its lamellæ somewhat crescent-shaped, fringed with fine hairs.

Coxæ, femora, tibiæ, and tarsi black, the front tibiæ somewhat yellowish with two pairs of bristles above and none below; front coxæ with a few very small black

hairs; hind tibiæ with a pair of bristles below near the middle; length of front tibiæ as 36; segments of front tarsi as 15–6–5–5–5; of middle tarsi as 24–10–7–5–9; of posterior pair as 17–19–13–8–9. Calypters brown with black cilia; halteres black.

Wings dark gray, tinged with brown as far back as fourth vein; third and fourth veins nearly parallel beyond the cross-vein, the fourth ending in the apex of the wing; last section of fifth vein curved, its length as 26, cross-vein as 11; anal angle of wing quite prominent.

Described from one male, taken by G. Hendrickson, June 5, 1927, at Ames City, Iowa.

H. brevipes is something like *tibialis* Van Duzee, but it is smaller, has the third antennal segment one-half longer than wide and rounded at the tip; the middle and hind tibiæ wholly black; the wings darker in color and the last section of the fifth vein two and one-half times as long as the cross-vein. *H. tibialis* has the last section of the fifth vein a little over one and three-fourths times as long as the cross-vein, the middle tibiæ yellowish, the third antennal segment about as long as wide and somewhat pointed at tip, and is 3 to 3.2 mm. long.

Hercostomus (Gymnopternus) browni, new species

Length, 2.3–3 mm.

MALE.—Face and front dull black, with slight traces of gray pollen on lower part; palpi velvety black; antennæ (Fig. 36) wholly black, third segment twice as long as wide, pointed at tip, with long pubescence; occiput very dark green with thin gray pollen; orbital cilia wholly black.

Dorsum of thorax and abdomen shining bronze-green, the former almost blackish; pleura and venter of abdomen dull black; abdomen with black hair; hypopygium moderately large, black, its lamellæ (Fig. 37) black, fringed with stiff black hairs, somewhat crescent-shaped, usually closely applied to the end of the hypopygium, so that only the outer edge shows.

Coxæ and femora black, narrow tips of coxæ, all trochanters, extreme base of femora yellow, the moderately wide tips of front and middle femora and extreme tips of hind ones yellow; coxæ with black hair and bristles; femora without long hair below, middle and hind ones with one preapical bristle; upper surface of front tibiæ with a pair of small bristles near basal fourth, a large bristle at the middle and a row of small bristles or bristle-like hairs on upper posterior edge, which are longest toward the base, very short at the tip, the bristles beginning at the basal fourth, where they are about as long as the diameter of the tibiæ; middle tibiæ with one long bristle at apical third of lower anterior edge; hind tibiæ usually brown or black at tip; tarsi black with first segment more or less yellow; length of front tibiæ as 55, middle as 69 and posterior as 100; segments of front tarsi as 30–14–9–8–8; of middle pair as 37–18–15–10–9; those of posterior ones as 28–32–24–16–11. Calypters and halteres yellow, the cilia of the former black.

Wings slightly tinged with brownish; third vein bent backward a little more at tip than the last section of the fourth vein, so that it approaches the fourth at the tip a very little; fourth vein nearly straight and ending in the apex of the wing; last section of fifth vein nearly straight, its length as 40, cross-vein about as 20; anal angle of wing rounded, but rather prominent.

TYPES.—Described from nineteen males, all taken by W. J. Brown, in Quebec, in 1930. Holotype and eight paratypes, at Bradore Bay, July 12 to August 1; and six paratypes at Thunder River, June 21–23. Types in Canadian National Collection.

Gymnopternus browni is nearly like *tristis* Loew, but *tristis* has the third antennal segment about as long as wide and with very short pubescence, the hypopygial lamellæ larger and the row of little bristles on the front tibiæ of more even length; my specimens of *tristis* are from Alaska, where the type was taken. The femora in both *tristis* and *browni* are sometimes largely yellowish brown, especially below.

Hercostomus (Gymnopternus) nigrifacies, new species

Length, 3–3.5 mm.

MALE,—Face rather wide above, narrowed below, black with black pollen; palpi black; antennæ (Fig. 38) black, third segment somewhat conical in outline; front black, vertex and occiput dark green with a little brown pollen; orbital cilia wholly black.

Dorsum of thorax and the abdomen dark blue-green, the former with a little brown pollen, which is visible only when seen obliquely; hairs of abdomen black; pleura black. Hypopygium (Fig. 39) and its lamellæ black, the former sessile; lamellæ rather small, fringed with moderately long hair, somewhat crescent-shaped; inner appendages enlarged at tip and with a long hair on the side; central organ about as long as the hypopygium; abdomen with long bristles on posterior margin of fifth segment, these bristles nearly twice as long as the bristles on the other segments.

All coxæ, femora, and the hind tibiæ black; front and middle tibiæ dark yellow, or yellowish brown, sometimes almost blackish; front coxæ with rather long black hair and long bristles, one of which is near the apical third; middle and hind femora each with one preapical bristle and a row of moderately long hairs on lower surface; upper surface of front tibiæ with a pair of small bristles beyond basal fourth and a larger single bristle at the middle, none below; middle tibiæ with a pair of large bristles above at basal fourth, a single one at basal third and a pair at apical third, below with one large bristle at apical third; hind tibiæ with seven bristles above and one below, which is near apical fourth and another small one near the middle below; length of front tibiæ as 49, of middle as 68, and of posterior pair as 92; segments of front tarsi as 25–10–8–5–5; of middle pair as 33–18–14–10–8; those of posterior pair as 22–27–20–13–10. Calypters and halteres yellow, the cilia of the former black.

Wings a little tinged with brown, darker in front of third vein, which is nearly straight; last section of fourth vein nearly parallel with third, ending just in front of the apex of the wing; posterior margin of wing evenly rounded, the anal angle being rather full, but not prominent; last section of fifth vein straight, its length as 47, cross-vein as 20.

FEMALE.—Face dark grayish pollinose; front and middle tibiæ dark yellowish brown, sometimes almost black; otherwise about as in the male.

TYPES.—Described from seven males and nine females, all taken by J. Wilcox, May 24, 1931, at Newport, Oregon.

H. nigrifacies belongs to a group of four species which have all the femora, hind tibiæ and hypopygial lamellæ black. This group contains,

besides the present species, *tenuicauda* Van Duzee, *tibialis* Van Duzee, and *brevipes* Van Duzee; it differs from all of these in having the face black, in which character it agrees with *tristis* Loew, but that species has all the tibiæ yellow, the posterior pair with a blackish tip. My specimens of *tristis* are from Alaska, the type location, and have the inner hypopygial appendages boot-shaped, not rounded and club-shaped as in *nigrifacies*.

Hercostomus (Gymnopternus) ovaticornis, new species

Length, 2.5 mm.

MALE.—Face rather narrow, black in the type (probably white pollinose in well-preserved specimens). Palpi black; front black like the face. Antennæ black, third segment slightly longer than wide, oval, broadly rounded at tip with rather long pubescence on third segment and arista; orbital cilia wholly black.

Abdomen green with bronze reflections and black hair; hypopygium of about the usual size, black, its outer lamellæ rather small, dark yellow, fringed with black hairs.

Coxæ and femora black; hair on front coxæ black; all tibiæ yellow, posterior pair with apical fourth black; front tibiæ with one bristle near middle on posterior surface and a row of small bristles on upper posterior edge with two longer bristles among them; middle tibiæ with one bristle above just before basal fourth, none below; hind tibiæ with one bristle below at apical third and several short bristles, or bristly hairs, above with three pairs of large bristles; length of front tibiæ as 57, of middle as 62 and of posterior as 67; length of the segments of front tarsi as 18–9–7–5–7; of hind tarsi as 20–25–18–12–9. Calypters and halteres yellow, cilia of former black.

Wings grayish; last section of fourth vein and the third vein nearly straight and parallel; last section of fifth vein straight, its length as 34, cross-vein as 13; anal angle of wing rounded, not very prominent.

TYPE.—Holotype, male, taken May 2, 1910, at Great Piece Meadows, New Jersey.

H. ovaticornis is almost like *singularis* Van Duzee, described from Rhode Island, but that species has the third antennal segment pointed at the tip, while in this species the third segment of the antennæ is broadly rounded, not at all pointed.

Paraclius coxalis, new species

Length, 3.5 mm.; of wing, 3.3 mm.

MALE.—Face narrow, a little wider above, silvery white, not quite reaching the lower margin of the eyes; front and occiput green with considerable white pollen; palpi very small, brown with yellow hairs; antennæ (Fig. 40) yellow, brown on apical third, pointed at tip, arista black with long pubescence; orbital cilia almost wholly yellowish white.

Dorsum of thorax shining blue-green, the posterior part more blue; the velvety black stripe above root of wing distinct and reaching the suture; the white pollinose spot at the suture large, but not silvery. Abdomen shining green with large spots of white pollen on the sides of the segments and black hair; seventh segment black, ring-

like; hypopygium (Fig. 41) black, a little yellow below, with a short peduncular segment, its appendages yellow, outer lamellæ (Fig. 42) large, yellow, blackish, and pointed at tip.

All coxæ, femora, tibiæ and the front tarsi pale yellow, middle and hind tarsi black with first segment dark yellow; front coxæ with black hair and four large bristles, two at tip and two on apical half of outer anterior edge, also two or three very small bristles at base in front; front tibiæ above with a pair of rather short bristles at basal third, one at middle and one near tip, also a row of stiff hairs above and below on posterior surface; first segment of front tarsi with a row of bristly hairs below, several near the base longer than the diameter of the segment; middle tibiæ with a pair of bristles below near the middle, above with four long bristles on anterior and three on posterior edge, also two near tip; hind tibiæ below with a pair of bristles of moderate length beyond the middle, and several small ones, above with four pairs of large bristles, and a single one at apical tenth; middle and hind tarsi with abundant stiff hairs; length of front tibiæ as 59; of middle as 79, and of posterior as 114; segments of front tarsi as 33–10–8–7–6; of middle as 39–15–15–10–7; and of posterior as 25–45–25–15–7. Calypters and halteres yellow, the former with black cilia.

Wings a little grayish; third vein a little bent backward toward tip, last section of fourth vein quite abruptly bent at its middle, rounding forward so as to be concave posteriorly (the venation is typical of the genus); last section of fifth vein only slightly arched, its length as 32, cross-vein as 21; anal angle of wing prominent.

TYPE.—Male, taken in February or March, 1931, at Santa Emilia, Pochuta, Guatemala, by Dr. J. Bequaert.

Paraclius coxalis is very much like *viridis* Van Duzee, from Honduras, but that species differs in having the third antennal segment largely brown, rounded at the tip, the hypopygium with a curved peduncular segment one-third as long as the hypopygium; the middle tibiæ below with one bristle near the basal and one near the apical third; hind tibiæ with one bristle below at the apical third; last section of fifth vein slightly longer than the cross-vein and the last section of the fourth vein beyond the cross-vein running nearly straight to its tip.

Paraclius fraternus, new species

Length, 3 mm.; of wing the same.

MALE.—Face of moderate width, a little wider above, silvery white; palpi yellow with black hairs; front and occiput green, white pollinose; antennæ (Fig. 43) dark yellow, third segment blackish, slightly longer than wide, obtuse at tip, arista inserted above the tip, one-fifth shorter than the front femora, its pubescence short, the tip a little enlarged, elongate-oval; upper half of orbital cilia black, lower half yellowish white and with bristly black hairs below the neck.

Dorsum of thorax green with grayish pollen, and a rather wide, median, brownish coppery stripe; abdomen green or coppery; hypopygium blackish, its lamellæ black (Fig. 44), rounded with a distinct petiole and a very long acute point extending backward from its upper edge, fringed on outer edge with long yellowish hairs.

Front coxæ yellow, sometimes a little darkened at extreme base on outer surface and with a few black hairs and long bristles; middle and hind coxæ black with narrow

yellow tips; all femora and tibiæ yellow, all tarsi yellowish at base, black from tip of first segment, plain, with only a few minute spines below; all femora with a few rather short yellowish hairs below; length of anterior femora as 54, of their tibiæ as 52; length of middle tibiæ as 79, posterior as 98; segments of anterior tarsi as 18–6–5–4–6; of middle pair as 32–18–15–10–10; of posterior pair as 24–31–21–15–10. Calypters and halteres yellow, cilia of former black.

Wings grayish; third vein straight; last section of fourth vein from the cross-vein to bend as 40, from bend to apex of wing as 29; cross-vein nearly perpendicular to the axis of wing; fourth vein reaching the wing margin before the apex of the wing, scarcely parallel with third at tip.

TYPES.—Described from four males, taken by C. H. Curran, July 5 and 9, at Cold Spring Harbor, Long Island, New York.

P. fraternus is one of three forms with the arista enlarged at the tip. The first, *claviculatus* Loew, was described in 1866, the type being taken just across Long Island Sound from where these specimens were taken. According to Loew's description *claviculatus* differs from *fraternus* in having the wings blackish and the hypopygial lamellæ with a filament attached to the side at the base. Dr. Aldrich described *discifer* in March, 1902, from specimens taken on the island of Granada, West Indies, and this must have the hypopygial lamellæ much as in *fraternus*, but differs in having the antennal arista longer than the anterior femora. In *fraternus* the arista is to the front femora as 44 to 54. Dr. Aldrich also states that the bend in last section of fourth vein is very obtuse and at its middle, while the bend in *fraternus* is quite sharp and considerably beyond its middle. All three species may prove to be the same, but I scarcely think it possible.

Paraclius sordidus, new species

Length, 3.1 mm.

MALE.—Face in the middle as wide as third antennal segment, one and one-half times as wide above, silvery white, suture near lower part, making the lower part about as long as wide, rounded below; palpi small, black with the hairs mostly yellow; front blue-green with considerable white pollen; antennæ (Fig. 45) yellow, third segment with apical two-thirds brown, pointed at tip, one-third longer than wide, arista inserted near the middle, with long pubescence; occiput green, white pollinose; lower orbital cilia white.

Dorsum of thorax brownish green with blue reflections, its pollen white, giving it a somewhat spotted appearance; pleura wholly black with green reflections, thickly white pruinose; acrostical bristles rather long, in two rows; dorsocentrals five in a row. Abdomen bronze-green, with white pollen and black hair, last segment black, small, covered with white pollen; hypopygium (Fig. 46) black, the small peduncular segment reddish brown, the outer lamellæ moderately large, yellowish brown and rounded on apical margin, the inner appendages small, yellow.

All coxæ, femora, tibiæ, and the front tarsi wholly yellow; front coxæ with black hair and four large bristles near tip; all femora with short hair below; front tibiæ with

three rather large bristles on upper anterior, and two on upper posterior edge, also a row of black bristly hairs on upper anterior edge; upper surface of posterior tibiæ with two pairs of large bristles on basal half, a pair of small ones near base, the apical half with three large bristles, besides two at tip, lower anterior edge with one moderately large bristle near apical third; upper surface of middle tibiæ with a pair of small bristles near base, a pair of large ones at basal fifth, and four large single bristles on apical three-fourths, also four at tip, below with one large bristle at apical third of lower posterior edge; front tarsi with a row of bristle-like hairs below, the one at base as long as diameter of segment; middle tarsi with a bristle below at base, which is twice as long as diameter of segment; middle and hind tarsi yellow, appearing quite brown toward apical end; length of front tibiæ as 54, middle as 69 and posterior as 103; segments of front tarsi as 29–10–8–6–5; of middle as 35–21–19–11–8; and of posterior as 25–36–24–17–8. Calypters and halteres yellow, cilia of the former black.

Wings grayish; third vein only slightly bent back at tip; last section of fourth vein abruptly bent beyond its middle, arched so as to make the apical part concave posteriorly; last section of fifth vein much curved, ending in a notch in hind margin of wing, its length as 17, cross-vein as 15; anal angle of wing rounded, but quite prominent.

HOLOTYPE.—Male, taken in February or March, 1931, at Santa Emilia, Pochuta, Guatemala, by Dr. J. Bequaert.

This form is near *viridis* Van Duzee and *coxalis*, new species. It differs from *coxalis* in having the posterior edge of the pleura wholly black, third antennal segment only one-half longer than wide, and the hypopygial lamellæ somewhat different. From *viridis* it differs in having the dorsum of the thorax dull, in having no distinct velvety black stripe above root of wing, and in having only a short peduncular segment to the hypopygium.

Paraclius angusticauda, new species

Length, 3 mm.

MALE.—Face narrow below, about as wide as third antennal segment at the antennæ, shining green above, silvery white below this green, which extends down about as far as the width of front which is also shining green; palpi small, black; antennæ (Fig. 47) wholly black, the third segment rather large, straight above, rounded below and a little pointed at tip; arista dorsal, short pubescent on basal half, pubescence longer on apical half; lower orbital cilia dark yellowish.

Thorax green, dorsum shining and with a median coppery stripe on the anterior two-thirds; pleura white pruinose. Abdomen green, covered with white pollen and black hair, hairs on the sides and venter a little yellowish, the last segment wholly white pollinose; hypopygium (Fig. 48) black (its base and the small peduncular segment a little reddish brown), rather long and slender, outer lamellæ brown or yellowish brown with short yellow hairs, oval, twice as long as wide, inner appendages comprising a pair of smooth, yellowish, curved, horn-like organs.

Front coxæ yellow, distinctly blackened at base for a short distance, with rather long and abundant black hairs and five bristles, four at tip and one on outer anterior edge; middle and hind coxæ almost wholly black; trochanters, femora, and front and

middle tibiæ yellow, hind femora black above at tip; hind tibiæ black with a narrow yellow line above between the rows of large bristles, but in certain lights the anterior surface appears a little yellowish; all tarsi black or brown almost to their base; front tibiæ with three large bristles above, one at basal third, one at the middle and one beyond apical third, between them are a few short bristle-like hairs, no bristles below; middle tibiæ with four pairs of bristles above, besides those at tip and a large bristle at the middle below; hind tibiæ above with four bristles on each edge, besides those at tip; below with a row of rather long, bristle-like hairs on anterior edge; hind femora with rather long hair both above and below; last segment of front tarsi a very little widened; hind tarsi a little thickened and with rather dense long black hair; length of front tibiæ as 40, middle pair as 68, and posterior ones as 86; segments of front tarsi as 19–7–5–4–6; of first three segments of middle tarsi as 33–20–18; of posterior tarsi as 27–33–28–18–10. Calypters and halteres yellow, the cilia of the former black.

Wings gray, very slightly tinged with brown, especially in front; third vein nearly straight; last section of fourth vein gently bent considerably beyond its middle, arched so as to be a little concave posteriorly; last section of fifth vein slightly curved, its length as 23, cross-vein as 12, and at right angles with fourth vein; wings narrower than usual, but the anal angle a little prominent, the wing being of somewhat equal width.

HOLOTYPE.—Male, taken in March or April, 1931, at Moca, Guatalon, Guatemala, by Dr. J. Bequaert.

Paraclius angusticauda is very much like *elongatus* Van Duzee, from St. Vincent, West Indies, but that species has the hind coxæ yellow, a little black at the base; hind tibiæ yellow; middle tibiæ with two bristles below, front tarsi largely yellow, middle tarsi black from the tip of the first segment, wings with bend in last section of fourth vein abrupt, broadly rounded, at the middle of the last section of the fourth vein, the apical part considerably concave posteriorly and the first two segments of hind tarsi are as 27–15; in *angusticauda* the first two segments of the hind tarsi are as 27–33. It is possible that the third segment in *elongatus* was broken off, as the length of only two segments was given, but the second segment of the hind tarsi is sometimes much longer than the first in this genus, often very nearly equal, but usually the second segment is much the longer.

Sarcionus obtusus, new species

Length, 4 mm.

MALE.—Face fully as wide in the middle as width of third antennal segment, a little wider above and below, silvery white, lower part slightly longer than wide, rounded below; palpi yellow with black hair; proboscis black; antennæ (Fig. 49) yellow, the third segment mostly blackish, obtusely pointed at tip, about as long as wide, arista inserted near the middle, feathered with long hairs; front and occiput green, thickly white pollinose; orbital cilia black, about six of the lower cilia on each side yellow, a black bristle near the lower end of the posterior orbits.

Dorsum of thorax and scutellum dark, shining green with a little white pollen along the front; acrostical bristles large, in two rows; dorsocentral bristles six in each row; scutellum with one pair of large bristles and a long hair outside of these on the margin; pleura wholly black, with green reflections and white pollen. Abdomen black with slight green reflections, spots of white pollen on the sides of the segments; hypopygium black, the inner appendages and lower edge yellow, with a short reddish-brown peduncular segment, its lamellæ with the apical part whitish, nearly oval in outline with mixed pale and black hairs on the edge, its petiole a little yellowish (about like that of *Paraclius obscurus* Van Duzee, Bull. American Museum of Natural History, LXI, Art. V, p. 205, Fig. 49).

All coxæ, trochanters, femora, tibiæ and front tarsi yellow; front coxæ with black hairs and bristles; middle and hind coxæ a very little blackened at base; last segment of front tarsi brown; middle tarsi yellow, becoming brown toward the tip; hind tarsi almost wholly black; femora nearly bare below; front tibiæ above with one pair of bristles near basal fourth, one bristle beyond the middle and a pair near the tip, no bristles below, but with a long wavy hair below at tip; middle tibiæ with five long stout bristles at tip and one slender one below at tip, and two large bristles on lower middle third, above with five on basal two-thirds, besides three small ones near base; posterior tibiæ with four large bristles on upper posterior and three on upper anterior edge, none below; length of front tibiæ as 65, middle as 126, and posterior as 129; segments of front tarsi as 40–20–13–7–7; of middle as 50–32–21–13–8; of posterior pair as 30–50–30–19–9. Calypters and halteres yellow, cilia of former black.

Wings grayish, slightly darker toward the front, the root of the wing yellow; third vein bent backward a little at the tip; last section of fourth vein abruptly bent at the middle, curved so as to be concave posteriorly; last section of fifth vein curved, equal to the cross-vein in length.

TYPE.—Holotype, male, taken in March or April, 1931, at Moca, Guatalon, Guatemala, by Dr. J. Bequaert.

Of the described species of *Sarcionus* this would come nearest *rotundicornis* Van Duzee, but that species has black palpi, third segment of antennæ broadly rounded at the tip, lateral and inferior orbital cilia white, bend in last section of fourth vein a little before its middle, and the last section of the fifth vein about one-fifth longer than the cross-vein.

Pelastoneurus abbreviatus Loew

Mr. C. H. Curran took many specimens of what I have been determining as *abbreviatus*, and I find that the long pale hairs on the tips of the inner hypopygial appendages (Fig. 50) are branched. Mr. Curran's specimens were taken at Cold Spring Harbor, Long Island, N. Y., in June and July, 1930. I had not noticed the branching of these hairs before and Dr. Loew does not mention them in his description, which was made from specimens taken at New Rochelle, N. Y., nearly across Long Island Sound from where these were taken. As they agree well with his description in other respects they are no doubt correctly determined.

Pelastoneurus bequaerti, new species

Length, 3.5–4 mm.

MALE.—Face rather narrow, wholly silvery white when viewed from in front, the upper part yellowish brown when seen from below, its suture near apical third, rounded below; front dark green, covered with white pollen; palpi small, yellow, with the hair mostly black; antennæ yellow, third segment blackened at tip, about as long as wide, tip a little rounded, arista feathered with long hairs; lower orbital cilia white.

Dorsum of thorax and scutellum shining, very dark blue-green; the velvety black stripe above root of wing distinct, the silvery pollinose spot at the suture large; humeri shining black; pleura black, white pruinose. Abdomen shining black with black hair and spots of white pollen on the sides of the segments; hypopygium (Fig. 51) black, with long yellow appendages below, which make it appear yellow below, its lamellæ yellowish white with a brown apical border, hairs on the edge yellow, rather stiff but not very long, disk with minute white hairs.

All coxæ yellow, middle pair blackened on basal half of outer surface, front pair with small black hairs and about seven bristles, five across the tip and two on outer anterior edge, the upper one smaller and above the middle; femora and tibiæ yellow, hind tibiæ dark at tip; front tibiæ with two very slender bristles above, one at the middle and one near tip, its length as 70; they have no bristles below; middle tibiæ with two bristles below on middle third of anterior edge; hind tibiæ with a row of stiff black hairs below, which do not reach base or tip; middle and hind tibiæ with the usual large bristles above; front and middle tarsi yellow or yellowish brown, darker toward their tips; hind tarsi almost wholly black or dark brown; segments of front tarsi as 42–17–14–9–8; of middle as 46–31–13–14–8; of posterior pair as 43–53–27–19–11. Calypters and halteres pale yellow, the cilia of the former black.

Wings dark gray; third vein nearly straight; last section of fourth vein bent beyond its middle, its tip close to tip of third, the apical part concave posteriorly, from the cross-vein the bend as 52, from bend to tip as 42; last section of fifth vein curved and partly represented by a fold in the wing, which ends in a notch in the hind margin of the wing, its length as 22, cross-vein the same length.

FEMALE.—Color about as in the male; third antennal segment as long as wide; face wider than in the male, but narrow for a female, its pollen as in the male; palpi and proboscis yellow; femora and tibiæ paler yellow than in the male, tarsi colored as in the male; fore tibiæ with three slender bristles above; middle and hind tibiæ with their hair and bristles about as in the male; last section of fifth vein straight, reaching half-way to wing margin, which is not notched, being scarcely indented; otherwise about as in the male.

TYPES.—Described from four males and one female, all taken by Dr. J. Bequaert, in March and April, 1931, at Moco, Guatalon, Guatemala.

P. bequaerti is separated from *versicolor* Van Duzee, from Cuba, by the hypopygial lamellæ being yellow and the margin of the lamellæ being evenly rounded, not jagged. In *versicolor* the lamellæ are jagged and bristly on the apical margin and almost wholly black, and also the third antennal segment is twice as long as it is wide.

Pelastoneurus minutus, new species

Length, 2.5 mm.; of wing 2 mm.

MALE.—Face rather wide, wholly opaque, being wholly covered with brown pollen, its suture near apical fourth, lower part a little wider than long, rounded below; front bright violet with a little brown pollen above the antennæ; occiput green, a little dulled with brown pollen; palpi black; antennæ yellow, third segment yellow at base, but mostly brown, rounded at tip, arista feathered with rather short hairs; orbital cilia wholly black.

Dorsum of thorax and scutellum covered with thick brown pollen, which leaves two rather wide, shining violet stripes, one each side of a brown pollinose stripe, in which the acrostical bristles are inserted; scutellum bright violet in the middle; sides of the dorsum of the thorax green. I cannot see any black velvety stripe above root of wing or silvery spots on the sutures. Abdomen green with bronze reflections, black hair and spots of white pollen on the sides of the segments; hypopygium of the usual size, black, its outer lamellæ are mostly concealed by the legs in the type, but appear to be rather small and wholly black with black hair.

Front coxæ yellow, largely blackened on basal half of outer surface, wholly yellow on inner side, their hair black, bearing three black bristles in a row from the tip upwards; all femora, tibiæ and base of all tarsi yellow; no long hairs on lower surface of femora; front tibiæ with one large bristle on posterior side beyond the middle, their length as 47 and about one-fourth longer than their tarsi; middle tibiæ on upper surface with a pair of large bristles at basal fourth, one bristle beyond these and another just beyond the middle, no bristles below, their length as 69; segments of front tarsi as 13–7–6–5–7; of middle pair as 25–17–14–8–7; of posterior pair as 22–33–24–14–10. Calypters yellow with black cilia; halteres black.

Wings dark grayish, almost brownish; last section of fourth vein bent before its middle, its tip close to tip of third vein; veins brown.

TYPE.—Described from one male, taken October 26, 1916, at Baraland, Mobile Co., Alabama.

Pelastoneurus minutus comes nearest to *aurifacies* Van Duzee. It has the face brown pollinose, not at all yellow, the suture of the face is near the middle in *aurifacies* and at the apical fourth in this. In *minutus* the front tibiæ are about one-fourth longer than their tarsi, while in *aurifacies* the tibiæ and tarsi are of nearly equal length.